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ABSTRACT

The Student Attributes Coding System has been developed for gathering data about the personal characteristics and classroom behavior of elementary school students selected for observation because they engender predictable attitudes and expectations in their teachers. This system is designed to systematically record and categorize all interactions of selected target children with the teacher, as well as critical behaviors performed independently and with their peers. The coding sheet is divided into four sections according to the type of interaction being coded. The response opportunities section includes categories for indicating whether the interaction was in a small group or general class discussion, the method of initiation of the interaction, and the feedback provided by the teacher. The child initiated contacts section records the child's work, approval seeking, housekeeping, personal, tattling, and social interactions, while the adult afforded contacts section has divisions for work, housekeeping, personal, and social interactions between the teacher and the target child. The behavior related contacts section records student causative behaviors, and teacher's reactions to them, in addition to specific critical target and teacher behaviors. Instructions regarding coder training and reliability, and a sample coding sheet are included. (Author/MV)

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Manual for the Student Attributes Coding System

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The Research and Development Center for Teacher Education was established on the campus of the University of Texas at Austin in 1965, to design, build and test effective products to prepare teachers for careers in the nation's schools.

A staff of more than 100 are engaged in projects ranging from basic research into effective teaching behavior, through development of special counselor training strategies, to the development, implementation and evaluation of a complete and radically different undergraduate teacher education program.

The Center's major program, the Personalized Teacher Education Program, has its roots in teacher personality research dating back to the mid-Fifties. This early research, which demonstrated how teacher's personalities and classroom behavior correlate with success in their teaching careers, has led to the development of a large group of products which help education facilities become aware of student teachers' individual needs. The program also has produced products for student teachers' use, to help them build on their strengths.

The completely modularized program is currently in field test and or use at more than a dozen important teacher education institutions nationally.

In addition to the PTEP, the Center also supports other projects in educational evaluation, development of strategies for implementing institutional change, and in consultation techniques for helping teachers plan individualized programs for children.

The Center's work is supported by the National Institute for Education and by the University of Texas System, as well as through contract research and development programs for public agencies.

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INTRODUCTION

This coding system was developed for a study designed to gather data about the personal characteristics and classroom behavior of students selected for observation because they engender predictable attitudes and expectations in their teachers. This information should be useful in helping teachers to minimize the degree to which they form undesirable expectations and attitudes about students and in helping them learn to deal with some of the more common "problem types" more effectively.

Teachers in 4 elementary schools filled out 13 bipolar rating forms concerning their attitudes and expectations regarding their students. These were filled out at 3 points in time, early, middle, and late in the school year, to see whether the teacher's impressions of students remained constant or changed linearly with time. These same students were rated twice the next year on the same scales by different teachers. These 2 sets of teacher ratings were then analyzed to identify students who showed constancy in the impressions they made on their teachers.

During this second year of the study (1973-1974 school year), these selected students were observed by classroom observers using the present coding system. The observers also rated each student on the high influence scales used by the teacher, and the teachers were interviewed to obtain free response comments about the children. Analyses of these data and their implications for teaching will be presented in future reports. Meanwhile, the coding system is presented in the present document for the convenience of researchers interested in this topic.

OVERVIEW

The coding system, and therefore the coding sheet, is divided into four sections according to the type of interaction being coded: Public Response Opportunities, Child Initiated Contacts, Adult Afforded Contacts, and Behavior Related Contacts. The "Response Opportunities" section includes categories for indicating whether the interaction was in a small group or general class discussion, the method of initiation of the interaction, and the feedback provided by the teacher. The "Child Initiated Contacts" section records the child's Work, Approval Seeking, Housekeeping, Personal, Tattling, and Social interactions. The "Adult Afforded Contacts" section has divisions for Work, Housekeeping, Personal, and Social interactions between the teacher and the target child. The "Behavior Related Contacts" section records Student Causative Behaviors, and teacher reactions to them, in addition to specific target and teacher critical behaviors when they occur.

STUDENT ATTRIBUTES CODING SYSTEM

The Student Attributes Coding System is designed to systematically record and categorize all interactions of selected target children with the teacher as well as critical behaviors engaged in by the targets, both independently and with their peers. This naturalistic coding system records both adult afforded and child initiated public and private contacts, as well as behavior related incidents and certain critical behaviors. Although it is not designed to code everything that goes on in the classroom, it does provide every dyadic interaction of a target with the teacher a place in the system. This observation system, therefore, will record both the quantity and quality of teacher interaction with the individual target children.

GENERAL PROCEDURE

The focus of this coding system is on the individual target child in the classroom. Each child to be studied is assigned an identification number. Arrangements can be made with individual classroom teachers for the children to sit in assigned seats for at least a short period of time so that coders can more easily learn to associate the target children with their ID numbers. The actual coding proceeds with the coder following the attention of the teacher and recording each interaction she has with the designated children. At the same time, he monitors other events in the classroom, watching for the occurrence of critical behaviors by the target children, either independently or with their peers.

RESPONSE OPPORTUNITIES

Response opportunities include public opportunities to answer a question, make a comment during a discussion, recite, read during reading group, work a problem on the board, or otherwise answer a question or respond publicly during a lesson. Response opportunities are coded according to: 1) small group vs. whole class context; 2) initiation of the response opportunity (four types); 3) teacher's praise or criticism (if any). Refer to the sample coding sheet on page 45.

Small Group vs. Whole Class

Whenever a child is coded for a response opportunity, the coder checks either the small group or the whole class column to indicate whether it occurred during a small group (a reading group or some other small group lesson) vs. whether it occurred in a discussion or lesson presented to an entire class. Code whole class (CLASS) if all or almost all members are present (such as if 3 or 4 children had been taken out for some special work but the remaining 20 to 25 children were still present). Code small group (SMALL) when less than half the class are in a group with the teacher.

The small group vs. whole class distinction need be made only once for any continuous lesson, and a line can be drawn down from that first check to the last one made during the lesson. Thus, during a given lesson, it will not be necessary to repeat the checking of this particular distinction for each separate response opportunity.

Initiation of the Response Opportunity

This coding indicates whether the teacher or the child initiated the response opportunity and, if the child did, which of three possible methods

that he could have used was used. The categories are non-volunteer (NVOL), volunteer (VOL), wave (WAVE), and call-out (CALL).

Code non-volunteer (NVOL) in situations where the teacher calls on the child when he does not have his hand up and is not seeking a response actively. The teacher may do this by naming the child even before she asks the question, or she may ask the question and then call on a child who does not have his hand up, or she may not give enough time for any child to raise his hand but call on someone as soon as she finishes asking the question. All of these cases are non-volunteer, since the child did not positively indicate a desire to respond.

Code volunteer (VOL) when the child has raised his hand and is called on by the teacher. This category should also be coded if it is not clear that the child volunteered by raising his hand, since most of the time the teacher will call on children who have raised their hands.

Wave (WAVE) is coded when the child not only raises his hand seeking to respond, but waves it vigorously and/or pleads for a response opportunity ("Teacher, Teacher!" "I know, Teacher, I know!"). Thus, WAVE is coded when the child goes beyond merely raising his hand and does something verbally or physically to draw the teacher's attention to himself and to convey special eagerness to be called on. If there is uncertainty about whether to code volunteer (VOL) or WAVE, code volunteer (VOL). Thus, WAVE is coded only when one is certain that it should be coded.

Code call-out (CALL) whenever the child calls out the response without the teacher's first having called on him. In this case, the child responded without waiting for the teacher to give him permission. If it is unclear whether the child called out a response without permission or whether the teacher

indicated that the child should respond in some minimal way that the coder could see, volunteer (VOL) is coded rather than call-out (CALL). Thus, call-out (CALL) is coded only when it is obvious that the child has called out the answer without permission.

Also coded in this section are child-initiated questions and comments that arise independently of a question from the teacher. These instances are handled in the same way as a response opportunity initiated by the teacher. If the child raises his hand and in effect volunteers his question or comment, it is coded under VOL or WAVE, using the same defintions of these categories as described above. If, on the other hand, he calls out his question or comment without being acknowledged first, it is coded under CALL. In all of these cases, however, the contact is definitely child-initiated and not merely the response to a teacher initiated response opportunity.

Teacher Praise and Criticism

This coding is optional, and is coded only on those occasions where it occurs (which will be a minority of response opportunities in most teachers' classrooms). Code praise (++) if the teacher praises the quality of the child's answer or response and code criticism (--) if she criticizes it.

Praise (++) is coded when the child is praised verbally ("Good," "Fine," "Very good," "Right on"), but praise is not coded (ordinarily) if the teacher merely gives the child feedback indicating that he has been correct ("O.K.," "That's right," "Yes."). For consistency, stock words such as "good" and "fine" should be considered and coded as praise even if the teacher uses these words habitually. Praise (++) is also coded whenever the teacher gives feedback in an excited or emotional way that conveys delight, pleasure, or excitement at the child's response. Thus, if the teacher says "That's right!" in a

warm and excited tone of voice, praise (++) is coded even though the praise was not spelled out verbally. Thus, praise (++) is coded whenever the teacher shows excitement or pleasure in the child's response, regardless of the verbal content of her reaction to the child and it is also coded whenever the teacher verbally expresses praise, regardless of her emotional expression or voice tone.

The coding of criticism (--) parallels the coding of praise. If the teacher merely gives the child negative feedback telling him that he is incorrect ("No," "That's not right."), do not code criticism (--). Code criticism (--) when the teacher criticizes the child verbally ("That's a stupid answer!" "No, that is not right. What is the matter with you?" "I'm surprised at you. You should know better than that!"). Also, code criticism (--) regardless of the verbal message if the teacher's reaction conveys disgust, frustration, anger or rejection through voice tone, facial expression or gestures. Thus, code criticism (--) if the teacher says "No!" sharply to the child with an expression of disgust and frustration. Like praise, criticism (--) is coded whenever the teacher reaction conveys disgust or other negative emotions through gestures, facial expressions, or voice tone, regardless of the words the teacher uses, and it is also coded whenever the teacher criticizes the child personally in words, regardless of her expression, gestures, or voice tone.

NOTE: Criticism (--) is coded here only for criticism of the quality of the child's answer. Criticizing the child for having called out a response without permission (as opposed to criticizing his answer for being stupid) is coded under behavioral criticism and should not be confused with criticism of the quality of the child's response.

If it is not clear whether or not to code praise (++) or criticism (--), such as in borderline cases where the reaction is somewhere between simple feedback and praise or criticism, do not code praise or criticism. In other words, code praise or criticism only when it is obvious that it should be coded.

CHILD INITIATED CONTACTS (CIC)

Child Initiated Contacts (CIC) include all those interactions of a target child with the teacher which were initiated by the child by his approaching the teacher or raising his hand to get the teacher's attention. Child Initiated Contacts are recorded by entering the target's number on the far left side of this subsection of the coding sheet under the Child # column. After the child's number is recorded, the coder moves to the appropriate one of the six subsections of child initiated contacts and places a check or checks in the appropriate columns to indicate teacher response.

The six subsections of Child Initiated Contacts are: Work (WORK), Approval Seeking (APP SEEK); Housekeeping (HOUSE); Personal (PERSONAL), Tattling (TATL); and Social (SOCIAL). It is possible in almost all instances to determine the nature of the interaction, but if this cannot be determined either by the conversation between the teacher and the target child or by contextual clues, such as the textbook the child is carrying when he approaches the teacher, etc., the question mark (?) column next to the child's number column should be checked. This column should be used only when the coder does not know the nature of the interaction, not when he has heard it but cannot make up his mind.

Child Initiated Work Contacts

Child initiated work contacts are contacts initiated by the child either

because he has raised his hand to get the teacher's attention or because he has gone to the teacher's desk or to wherever the teacher is to initiate the interaction, and they involve discussion of the child's work assignment (as opposed to the non-work types of interactions to be discussed below). Typically, the child will come to the teacher carrying a work book or work sheet and ask her questions about it, or will come to the teacher with a book and ask for clarification about directions concerning the assignment. Interactions coded under child initiated work contacts, in addition to being clearly initiated by the child, should clearly be concerned with work. In short, in order to code here you should be sure that the child is coming to the teacher because he is confused and wants help or clarification concerning how to do an assignment. When this category is coded, in addition to entering the child's number in the proper column, you also code the length of the interaction and the nature of the teacher's response to the child.

Length of Interaction

Child initiated work contacts are coded as refuse (REF), brief (BRIEF), or long (LONG). Code refuse (REF) if the teacher ignores the child or tells the child that she is too busy right now to be interrupted. She may listen to the child long enough to find out what he wants, but she fails to give him any substantive answer to his question and instead tells him to go back to his seat or to wait until later. In short, she refuses to deal with his problem at least for now.

Code brief (BRIEF) if the teacher listens to the child's question and then gives a substantive but brief answer (a sentence or two at most). In these brief contacts the teacher is simply doing things like telling the child what page he is supposed to be working on, telling him what problems on the page to

do, or briefly telling him whether or not he is on the right track if he is unsure.

Code long (LONG) if the interaction is more extended because the teacher takes time to review either the assignment or the processes that the child is to use in completing the assignment. In these interactions, typically the child does not understand the directions and the teacher takes time to repeat them or elaborate on her earlier explanation to try to enable the child to work on his own. Thus, instead of providing a brief answer to a single question, she gives an extended response concerning how to do the assignment. If it is not certain whether the interaction was long or short and the situation is borderline, the coder should code BRIEF. This coding will allow a conservative estimate of the length of the interaction rather than a possible overestimate.

Nature of Teacher's Reaction to Child

There are three possible reactions that are optional and should be coded only when they occur. They are Praise (++), Impatience (IMP) and Criticism (--). Code impatient (IMP) if the teacher's manner in dealing with the child conveys impatience, an attempt to quickly give the child the brushoff; frustration at the child's lack of understanding or at her own need to continue explaining to him; or other clues that the teacher does not want to take time to explain the problem to the child and wants to get the interaction over with as quickly as possible. This coding is independent of the coding of the length of the interaction. Thus, a teacher could refuse to deal with a child's problem but not in an impatient way ("I'm busy right now, John, go back to your seat and wait a few minutes until I get a chance to come and talk to you about it.").

Conversely, a teacher could be involved in a long interaction with the child but convey impatience, disgust, a desire to get the interaction over with as quickly as possible, etc. Thus, this coding involves coding the teacher's emotional response to the child during the interaction, independent of the length of the interaction.

The coding of impatience (IMP) is optional and should be done only for those clear-cut and obvious cases where it is clear that they should be coded. Where the teacher responds in an unemotional and mechanically routine way, or if there is uncertainty about whether or not to code, do not code. Thus, code impatience (IMP) only when the teacher clearly shows signs of impatience.

Praise (++) and Criticism (--) are also optional and should be coded only when the coder is sure they have occurred. If he is not sure, neither column should be checked. Praise and criticism in these work related interactions refer to praise or criticism about the child's academic work as described in the previous section concerning teacher reaction to public response opportunities. Both IMP and an evaluative feedback (++ or --) may be checked, or one box may be checked without anything in the other box.

Child Initiated Approval Seeking

This is a very particular form of child initiated work interaction, which occurs when the child has finished an assignment completely and correctly (or at least thinks he has) and comes proudly up to the teacher to show his completed work. The implication here is that the child believes that he has done a good job; is informing the teacher of this and is presumably expecting some praise or reward. A work related interaction should be coded as approval seeking only when it is obvious that this is what the child is doing. If it

is not clear whether he has completed the assignment and is taking it to the teacher to show her that he is finished vs. whether he needs help and wants to talk to the teacher about the assignment, the interaction is coded in one of the preceding categories of child initiated work contacts.

Teacher Reactions

Teacher reactions to child approval seeking include refuse (REF), feedback (FB), praise (++), and criticism (--). Code refuse (REF) if the teacher ignores the child or tells him that she is too busy to look at his work now. Code feedback (FB) if the teacher gives routine feedback without praise or criticism. One of these two columns must be checked. An optional coding of praise (++) or criticism (--) is possible if the teacher either praises or criticizes the child's work. Praise and criticism have the same meaning as defined above; they can be conveyed either through the teacher's emotional expression or through her verbal messages to the child. There are coded only when they have clearly occurred.

Child Initiated Housekeeping Interactions

Housekeeping interactions involve the performing of favors or errands for the teacher or tasks which must be done in the interest of carrying on the daily business of the classroom (passing out books or supplies, collecting materials, erasing the board or cleaning the erasers, etc.). These housekeeping interactions are to be distinguished from personal needs or benefits which are not errands that the teacher needs done as part of the everyday business of running the classroom. Personal interactions involve matters of interest and concern only to the child himself; housekeeping interactions involve matters which the teacher wants or needs done in order to run the class-

room or perform duties connected with her teaching role. Housekeeping interactions are coded as child initiated whenever a child asks the teacher if he can perform some housekeeping service or errand for her; they are coded as teacher initiated when a teacher asks the child to do such a chore. Such an interaction is coded by recording the child's number and then placing a check in the appropriate teacher response column under the housekeeping subcategory.

Teacher's Responses

Teacher responses to housekeeping requests or initiations by children are coded as refuse, approve, thanks or reward. Refuse (REF) or approve (APP) is coded for each such interaction. Code refuse (REF) if the teacher listens to the child's request but turns him down; code approve (APP) if she allows him to do what he wants to do.

In situations where the child is allowed to do what he wants to do, the codes thanks (THNKS) and reward (RWD) may be coded also if appropriate. Code thanks (THNKS) if the teacher thanks the child for performing the task either immediately upon his agreement to do it or later after he has completed it. Code reward (RWD) when the teacher goes beyond mere approval ("Yes, John, you may clean the erasers."), and presents the job or privilege as a reward that the child is being allowed to do rather than as a chore or routine activity ("Yes, John, you've been a very good boy today and you've done good work so I'm going to let you clean the erasers.") in the case of reward, the teacher not only gives the child permission to do whatever it is he wants to do, she conveys the idea that what he is being allowed to do is a desirable and prized activity and that the fact that he is being allowed

to do it represents her way of rewarding good work or good behavior on his part. Code reward (RWD) only when the teacher has clearly given the impression that in approving the child's request she is giving him a prized privilege or reward rather than merely agreeing to let him do something because he asked her for permission. If it is not clear whether or not to code reward (RWD), this category should not be checked.

Child Initiated Personal Requests

As noted above, personal requests involve matters of interest only to the child himself and not matters that involve the whole class or duties that the teacher needs or wants done. Included here would be requests to use the bathroom or get a drink, sharpen pencils, get supplies, use special equipment, get clothing or other possessions, go to the principal's office or some other room (to do something that the child needs to do, not to run an errand for the teacher), visit the school nurse, lie down, etc. In short, the child has some kind of problem or personal concern and is asking the teacher for permission to do something about it. When a child initiated personal request is observed, in addition to entering the child's number in the CHLD # column, a check should be placed in the appropriate column(s) in the Personal subcategory to indicate the teacher's responses.

Teacher Responses

Teacher responses to child initiated personal requests are coded in five categories: refuse (REF), approve (APP), positive emotional reaction (☺), negative emotional reaction (☹), or reward (RWD). Either refuse (REF) or approve (APP) is always coded; the other three codes are optional.

Code refuse (REF) if the teacher refuses the child's request and approve(APP)

if she approves it. If the teacher delays by telling the child that he might be able to do it later or that he will be able to do it later but not now, code refuse (REF). In short, code approve (APP) only if the teacher approves the child's request on the spot. If she refuses it outright or if she delays, code refuse (REF).

Positive and negative teacher emotional reactions are recorded if and when they are observed, but only when the coder is certain that they should be coded. Positive emotional reactions (signified by a smiling face on the coding sheet (☺) are coded when the teacher responds to the child in a clearly positive, warm, friendly, etc. manner. This coding is independent of the coding of refusing vs. approving a request; a teacher could refuse the child's request but could still be coded for responding to him in an emotionally positive way (such as by putting her arm around the child and telling him in a friendly fashion that she would be very happy to let him play with the viewmaster, but the bell is going to ring in two minutes and there wouldn't be enough time so how about if she lets him play with it tomorrow). Similarly, approving his request does not necessarily imply a positive emotional reaction during the interaction. The teacher can briefly and perfunctorily give the child permission without expressing any positive emotion toward him.

Negative teacher emotions (signified by a frowning face on the coding sheet (☹) are coded when the teacher responds to the child with an attitude of disgust, rejection, anger, frustration, hostility, etc. Again, this is coded independently of whether or not the child's request is approved. It is possible for the teacher to approve a request while still being coded for a negative emotional response (such as when the teacher gives the child permission to sharpen his pencil but nags him for two minutes about how she's getting

tired of his always breaking off his pencil point and if he doesn't start using his pencil properly she is not going to allow him to use the pencil sharpener at all, etc., etc.,).

Positive and negative teacher emotional reactions (☺,☹) should be coded only when the described behavior clearly is present; if the coder is uncertain, nothing should be coded.

Code reward (RWD) whenever the teacher goes beyond simply approving the personal request but presents it to the child as a reward or privilege that she is granting because of his good work or behavior (similar to the reward category described above). Thus reward (RWD) should be coded if a child requested use of the viewmaster and the teacher responded by saying "Yes, John, you can use the viewmaster, because you have done all of your work very nicely and you deserve a reward." As always, code reward (RWD) only when it is clearly spelled out by the teacher. If it is a borderline case and the coder is not sure, nothing should be coded.

In summary, the coding for child initiated housekeeping and child initiated personal requests involves coding each time whether the teacher refused or approved the request. The remaining codes are optional and are only used when the coder is certain that they should be coded. These include thanking the child for offering or doing some housekeeping chore, displaying positive or negative emotion during an interaction involving a personal request, and/or presenting approval of a request in such a way as to reward the child for good work or behavior.

Tattling

Tattling (TATL) is coded whenever the child comes to the teacher to tattle on another child. Code tattling (TATL) whenever this happens, regard-

less of the justification for the tattling or the seriousness of the problem. The only criterion, then, for coding tattling (TATL) is that a child comes to the teacher to "tell on" another child. He may or may not be justified (for example, he may have just been attacked by another child and this case his "tattling" is appropriate behavior),and the behavior involved may or may not be important (both "Teacher, Johnny dropped his pencil, " and "Teacher, Johnny hit me,"are coded as tattling (TATL)).

In addition to entering a child's number in the child's # column on the left, code the teacher's reaction to the tattling by placing a check in the appropriate column.

Teacher Reaction

Teacher reactions to tattling are coded as approval (APP) or rejection (REJ). This coding is made every time a child tattles. Approval (APP) is coded if the teacher positively accepts the child's tattling by thanking him or taking action in response to it, or if she accepts it without any negative response. Thus, approval (APP) is coded both for clear-cut and obvious approval and for minimal responses. In contrast, rejection (REJ) is coded only when the teacher chides the child for tattling or shows that she is not interested in listening to what the child has to say ("Go back to your chair and sit down."). Note that the coding of approval or rejection of the tattling is independent of any action the teacher takes against the child who has done whatever it is that the tattler has reported. The teacher can be coded as accepting the child's tattling without doing anything about the problem, and she can be coded as rejecting (REJ) the child's tattling even in incidences when she follows up by taking action to correct the

problem or deal with the child who has been tattled upon. Thus, the coding of acceptance (APP) vs. rejection (REJ) involves coding the teacher's reaction to the fact that the child has come and tattled, and not of her more general reaction to the more general problem.

Child Initiated Social Contacts

Social contacts include the broad range of topics and reasons for interaction which are not covered under work contacts, approval seeking, housekeeping or personal requests, or tattling. Thus, social contacts include telling the teacher about things going on in the home, birthdays, recent experiences and events, new toys, family news, showing off new clothes or possessions, etc. The majority of social contacts will involve attempting to initiate a conversation with the teacher or to show the teacher some new possession. In general, however, any dyadic interaction between a single target and the teacher which does not fit into any of the other categories should be coded in the (SOCIAL) category.

Interaction Length Codes

The teacher's response to a child initiated social interaction is coded as refuse (REF), brief (BRIEF), or long (LONG). Code refuse (REF) if the teacher ignores the child or says that she is too busy to stop and look or to talk right now. Code brief (BRIEF) if the teacher takes a quick look at something the child is showing and makes a brief response and then moves on, or if the teacher pauses only long enough to listen to what the child has to say and then makes an unhurried, positive response to the child's overtures and does not appear to be in any hurry to finish the interaction and move on to something else.

Thus, coding (BRIEF) vs. long (LONG) in this instance requires attention to both the time element and to the teacher's apparent intentions. Usually the two will be closely correlated. However, occasionally a social interaction that lasted two or three minutes might be coded as (BRIEF) if it lasted that long only because it took that long for the child to get out what he wanted to say and the teacher then quickly made a brief response and moved away from the child without giving any opportunity to extend the interaction or to encourage the child to say more. In contrast to refuse (REF), the coding of BRIEF implies that the teacher did at least take the time to stop and look at what the child wanted her to see and/or listened to what the child wanted her to hear. It also implies that she made some brief but appropriate response. In contrast to LONG, the coding of BRIEF implies that the teacher, although she did take the time to watch and listen to the child long enough to find out what he wanted, minimized the length and emotional involvement of the interaction by ending it quickly with a concluding response rather than by taking time to question the child; encourage him to say more; or by showing through her behavior that she was willing to spend as much time with the child as he wanted.

Sometimes a child initiates a contact with the teacher, but the coder is unable to tell whether it is a work-related contact, an approval seeking contact, a housekeeping contact, a personal request, a social contact, or a tattle. Thus, it will not be possible to categorize the nature of the contact or to code the teacher's reaction. However, given that the child did initiate an interaction with the teacher, at least this much information can be coded by entering the child's number and putting a check in the "?" column of the child initiated contacts section.

This column is not to be used when the coder is uncertain as to how an interaction should be coded. It is to be used only when a child has initiated an interaction with the teacher but the coder is unable to categorize it any further because he cannot hear or see what is going on.

ADULT AFFORDED CONTACT (AAC)

The preceding contacts all involved the teacher and an individual target student, and all were initiated by the child. The contacts described in the present section also involve a single target student privately interacting with the teacher, but in this case the interaction is initiated by the teacher, not the child. The teacher initiates the contact by calling the child's name and telling him to come to her or by going to his desk or place in the room (on her own initiative, not in reaction to his having raised his hand or signaled a desire to speak with her). The various subcategories of adult afforded contacts closely parallel those for child initiated contacts. However, instead of coding them in the child initiated section and coding the teacher reactions to the child, one codes adult afforded contacts in the adult afforded section and the child's reaction to the teacher. There are four subcategories of adult afforded contacts: Work (WORK), Housekeeping (HOUSE), Personal (PERSONAL), Social (SOCIAL). To record any AAC, write the child's number in the child # column, then put a check or checks in a column under the appropriate subcategory.

Adult Afforded Work Contacts

These contacts occur when the teacher calls the child to her desk or goes around the room when the children are working on assignments, in order to check the child's work. The teacher may either observe the child's worksheet or workbook or observe him while he is working to see how he is doing (whether

he has understood the directions, whether he is getting the right answers and following directions properly, etc.).

In addition to entering the child's number in the column at the far left, check appropriate columns in the work subcategory to show: the length of the contact; teacher praise or criticism (if any); and the child's emotional reaction (if any).

Length of Contact

Teacher initiated work contacts are coded as follows: observe (OBS); brief (BRIEF); long (LONG). Observe (OBS) is coded if the teacher is going around the room checking child progress and stops to observe a child at work but does not say anything to him or give him any directions or feedback. Code observe (OBS) whenever the teacher has stopped to observe a child working. If there is uncertainty about whether she actually stopped to observe a child or whether she just walked by without clearly observing his progress, nothing is coded. Thus, code observe (OBS) only when it is clear the teacher is taking time to observe a child working but is not going on to provide feedback.

Code BRIEF if the teacher inspects a child's work and gives a brief message of encouragement or feedback. Here the teacher confines her response to a sentence or two, perhaps encouraging the child, pointing out an error or two, cautioning him to work more quickly or more slowly, telling him to reread the directions, etc. Code LONG when the teacher goes beyond providing such brief feedback in order to spend time with the child reviewing directions, working a few sample problems with him, questioning him to see that he understands, etc. As a rule of thumb, code BRIEF when the interaction lasts only long enough for the teacher to give a sentence or two of feedback to the child

(perhaps speaking to him for only 10 or 15 seconds, although she may have spent considerable time previously in silent observation). If the coder is unsure whether to code BRIEF or LONG, BRIEF should be coded.

NOTE: The coding of BRIEF and LONG refer to interactions which occur only after the teacher has initiated some verbal exchange with the child. The teacher might spend a long time silently observing the child, but if she never says anything to him, the coder should code observe (OBS) rather than LONG Code LONG only when the teacher engages in an extended verbal exchange with the child involving an attempt to go over the assignment with him or to help him understand it better.

Praise and Criticism

Code teacher praise (++) and criticism (--) if and when they occur. Praise and criticism are defined as above, and, as always, code them only when it is certain that they should be coded. Note that the coding of praise (++) and criticism (--) is independent of the coding of the length of the interaction; the teacher could praise or criticize the child in a very brief statement, so that it may often happen that an interaction would be coded BRIEF and then also be coded for either praise (++) or criticism (--). Also, in extended feedback to a child it is possible for the teacher to both praise and criticize, although this is unlikely.

Praise (++) and criticism (--) are coded only once per interaction. Thus, in a long interaction a teacher might praise or criticize a child three or four separate times, but only one interaction is coded and the praise (or criticism) is also coded only once.

Child's Emotional Reactions

Where relevant and observable, positive and negative child reactions to teacher initiated work contacts are coded. Positive emotional reactions (signified by a smiling face on the coding sheet ☺) are coded if the child responds to the teacher in an obviously positive way that conveys happiness, pride, warmth, enjoyment of an opportunity to share an interaction with the teacher, enthusiasm, gratitude, or other obviously and clearly positive emotional reactions. Negative emotional reactions (signified by a frowning face on the coding sheet ☹) are coded when the child responds with behavior that conveys anger, fear, frustration, disgust, inhibition, embarassment, or negative and unpleasant emotions. As always, emotional responses are coded only when they are obvious. In a borderline case where the coder is unsure, nothing should be coded.

Adult Afforded Housekeeping Interactions

In these interactions the teacher asks a child (either by naming him from the beginning or by calling for volunteers and then selecting one) to perform some task that is needed or to run an errand for her. Although this general category is called "housekeeping," any request by a teacher that a child do her a favor or run an errand is coded here, whether or not it has anything to do with the everyday business of running the classroom. The only exception to this occurs when the teacher asks the child to do something that is relevant to the child personally, as in the following section.

When a teacher initiated housekeeping interaction occurs, in addition to coding the student's number in the column to the far left, a check mark is put in the appropriate column to indicate the teacher's response to the child when he does the requested act.

NOTE: There is no coding of whether or not the child performs the requested act, because it is anticipated that the children will do what is requested all or almost all of the time. Should a child refuse to do something that the teacher asks him to do, this is coded as a criticial incident (SASS/DEFY). (See the Critical Behaviors section, page 33.)

Teacher Reactions in Housekeeping Contacts

Whenever a teacher initiated housekeeping contact occurs, its occurrence is noted by checking the routine (ROUT) column under teacher initiated housekeeping contacts. This indicates that such a contact has occurred. In addition, there are two optional codes that may be coded when relevant. The first is thanks (THNKS). Code thanks (THKS) if the teacher thanks the child after he has agreed to do the task or after he has completed the task.

The second optional code is reward (RWD). Code reward (RWD) if in describing the act that she wants done the teacher gives the impression that it is a privilege or reward that she is about to dispense to some particularly deserving child, as opposed to a favor or errand that she does not perceive as a special reward. This can be stated directly ("John, you've done all your work nicely and you've been an especially good boy today so I'm going to let you clean the erasers."), or it can be implied through the use of words like "let you," "will be allowed to," "will get to," "will be the person who has the cleanest desk," etc. Again, the main point here is that the teacher presents the opportunity as a privilege or reward that will go to someone who is particularly deserving, rather than as a routine job for which she needs help. If the coder is unsure about whether or not to code reward (RWD), it should not be coded.

Adult Afforded Personal Contacts

In these contacts, the teacher initiates an interaction with a child in order to ask or tell him to do something that applies specifically to him (clean his desk or area, put on or take off clothing, blow his nose, hang up his coat, take his milk money to the office (just his, not everyone's), etc). This category is to be distinguished from teacher initiated housekeeping contacts which involve asking the child to do something that is needed for the class as a whole or something that is a favor to the teacher, and it also must be separated from management contacts which are coded under behavioral contacts (to be described later). The major difference between teacher initiated personal contacts and management contacts is that the request or order given to the child in a personal contact is essentially for his own good and is something of direct relevance only to the child himself. In contrast, in a management contact the teacher asks the child to do something not so much for his own good but because his behavior is disruptive or otherwise is interfering with the smooth carrying on of classroom business. In a personal contact the teacher's main concern is the child himself; in a management contact her main concern is stopping the child from doing whatever he is doing because it is interfering with her instructional or managerial goals.

Child Emotional Reactions

The occurrence of a teacher initiated personal contact is indicated by checking the routine (ROUT) column under teacher initiated personal contacts. In addition to thus indicating the existence of the interaction, the child's positive or negative emotional reaction can be coded in instances where a codable emotional reaction is observed. Positive emotional reactions (indicated by a smiling face on the coding sheet (☺)) are coded when the child's

response to the teacher conveys happiness, warmth, enthusiasm, gratitude, joy at being able to share an interaction with the teacher, or some other quite obviously positive emotional response. It is anticipated that positive emotional reactions will be rare in this particular type of contact.

Negative emotional reactions (indicated by a frowning face on the coding sheet (☹)) are coded when the child's reaction conveys disgust, frustration, fear, inhibition, anger, or other clearly negative emotional states. As always, the coding of either positive or negative emotional states should be done only when the coder is certain that there is a codable response.

NOTE: The coding of the child's emotional response is independent of the nature of the teacher's message or request. Thus, it is possible that the teacher might neutrally or even somewhat positively ask the child to do something, but that the child will respond with a strong negative emotional reaction. This is especially likely when the teacher asks the child to do something that he does not want to do, such as clean up his desk or put away a desirable toy that he has been using.

Adult Afforded Social Contact

Like the category "Child Initiated Social Contacts," the category "Adult Afforded Social Contacts," includes all teacher initiated contacts which don't fit into any of the other more clearly defined categories. The more common examples would include: teacher initiates a chat or discussion with the child about current events, family affairs, etc.; teacher inquires about the child's family, birthday, clothing, etc.; teacher observes children during free play activities and makes some comment about their toys or games, etc.

Child's Emotional Reaction

The existence of a teacher initiated social contact is indicated by check-

ing the routine (ROUT) column in the teacher initiated social contacts section. In addition to this coding, the child's emotional reaction is optionally coded if and when a strong positive or negative emotional response is observed. The coding is indicated by a smiling face (☺) for a positive response and a frowning face (☹) for a negative response. The definitions of these emotional responses and the coding rules are the same as described above for teacher initiated personal contacts: code only when a clearly negative or clearly positive emotional response on the part of the child is observed. Also, remember that the coding of the child's emotional response is independent of the teacher's behavior, so that sometimes the child might respond negatively when the teacher was behaving neutrally or positively. For example, the teacher might come up to the child in an attempt to initiate a discussion with him, but he might be embarrassed by this overture and begin to blush, stare down at the floor, and refuse to respond to the teacher.

BEHAVIOR RELATED CONTACTS

The final major category of interactions is behavior related interactions. These involve positive or negative responses by the teacher to positive or negative child behavior. The coding of behavioral interactions involves indicating who the child was by entering his number in the child # column, indicating the nature of the behavior that led to the interaction by referring to the student causative behavior (SCB) list, coding the teacher's response in one of six teacher response categories (praise (++), non-verbal intervention (NVINT)), management (MGMT), warning (WARN), threat (THRT), criticism (--)), and coding the child's response if the teacher has reacted to him in a negative way (cowed vs. sullen). Thus, when a teacher praises or critcizes a child for some good or bad behavior, coding includes who the child is, what he did that

led to the teacher's response, and how he reacted if the teacher's response was a negative one.

Child Behavior

A behavior interaction is indicated first by entering the child's number in the child # column in the behavior related interaction section of the coding sheet. Then, the nature of the child's behavior that led to the teacher's response is indicated by entering the appropriate number from the student causative behavior list in the next column labeled "BEH#." The child behaviors identified specifically should subsume the vast majority of behaviors that lead to negative teacher responses. However, occasionally the OTHER category will have to be used. Whenever this happens (for all positive behaviors and for certain negative behaviors), the coder describes what the child did on the blank lines by the OTHER category at the first opportunity. These data may be coded later in an attempt to expand the categories within the OTHER codes so the descriptions should be specific. All OTHER codes however, will be indicated by the number 20 in the BEH# column.

Occasionally a behavior response will occur but the coder will not know what initiated it. For example, the teacher may suddenly yell "stop that!" to a child, and the coder may be able to see that she is warning or criticizing a target child, but the coder might have missed the child's behavior which led the teacher to warn or criticize. In this case, the zero (0) "Not Observed" coded is used to indicate that the teacher warned or criticized the child for something but that the coder was not able to see the event which led to the teacher's response.

Teacher Responses

Teacher responses are coded as praise (++), non-verbal intervention (NVINT),

management (MGMT), warning (WARN), threat (THRT), or criticism (--).

Praise (noted as ++ on the coding sheets) is coded whenever the teacher singles out an individual child for praise of his classroom behavior (as opposed to praise of good work or good responses, which are coded in response opportunities or work contacts section). Good behaviors might include cleaning up the desk quickly or cleanly, getting in line properly, sitting up straight, sharing, setting a good example, etc. Any good behavior that the teacher praises the child for, other than providing a good response during a response opportunity or doing good work on an assignment, is coded here. As always, praise (++) can be coded either because the teacher communicates positive emotion through expressions, voice tone, and/or gestures, or because the teacher praises in specific verbal terms. Any teacher behavior of this sort is considered praise, and when such praise is for behavioral rather than work related activity on the part of the child, it is coded as behavioral praise in this section. The child reaction is not coded if the teacher praises the child. The child reaction columns (to be discussed below) are used only when the teacher deals negatively with the child in one of the other five categories of teacher response. When the teacher praises a child, the child's number is entered; number "20" for OTHER is recorded in the BEH # column; and a brief anecdote describing how and why the teacher praised the child is written out. The descriptions are kept in order, but the same number "20" indicates all OTHER behaviors that occur, even if there are several on the same page.

Non-verbal intervention (NVINT) is coded when the teacher responds to inappropriate child behavior by glaring, frowning, gesturing (shaking head or finger, etc.), or by deliberately moving close to the child and remaining near him. The teacher does <u>not</u> say anything to the child about his behavior

(if she does, use one of the following categories), but she may speak to him about something else (call on him to respond, ask how his work is coming, etc.). Code NVINT only when the teacher's non-verbal behavior is in reaction to the child's behavior; if unsure, do not code.

Code management (MGMT) for teacher initiated instructions to the child which are given because the child is engaging in disruptive behavior or other behavior that the teacher wants him to stop because it is irritating her or interfering with her instructional activities. Management (MGMT) is the mildest of the categories involving negative teacher verbalization, implying only that the child is doing something undesirable and the teacher tells him to stop or to do something else instead. It does not involve any implied or expressed threat or criticism such as in the following categories. Thus, the child might be getting too noisy, starting to run around, dawdling instead of doing his work, etc., and the teacher might respond by making a firm request or issuing an order that clearly tells the child that his behavior is inappropriate but which is not negative or hostile in its emotional tone ("John, sit down and get busy now," "John, there are already six people at the listening center; you'll have to wait and get a turn later," "John, remember to raise your hand before answering."). Management messages to the child clearly imply that he is doing something undesirable, but they involve no evidence of frustration, anger, exasperation, or other negative affect on the part of the teacher. She is merely calling the child's inappropriate behavior to his attention in a calm and quiet way, telling him to stop what he is doing and/or telling him to do something other than what he is doing.

Management is to be distinguished from both the Adult Afforded PERSONAL and Behavioral WARN categories. Management requests which are behavior related include any request by the teacher for the purpose of running the class and are

not intended to benefit the student personally. This may be either a reaction to a student behavior that is appropriate but must be changed in order to make a transition or it may be a reaction to an inappropriate student behavior in which the student must be reminded that he is misbehaving and must change that behavior in order to maintain classroom order. In the latter case, to be considered a management, the reminder must be just that, delivered without irritation or anger in a neutral tone of voice. Otherwise, it is coded as warning, threat, criticism, depending on the severity of voice tone and the content of the message.

Code warning (WARN) when the teacher's message to the child is delivered a bit more sharply with an implied but not clearly spelled out threat of punishment or other undesirable consequences if the child does not comply. Coding warning (WARN) implies an observation of irritation or annoyance on the part of the teacher which is not present in the coding management (MGMT), but is not strong enough to lead the teacher to threaten or criticize the child as in the following categories. Thus, the child is told rather sternly that his behavior is inappropriate and that he should do something else, but this is not carried to the point of threat or punishment ("John, I'm warning you for the last time - sit down and finish your work," "Quiet down, John - I'm not going to tell you again." "John, you be quiet when other people are talking. Do you understand?")

Code threat (THRT) when a warning goes past a mere vague warning to the point of spelling out a specific threat describing what is going to happen to the child if he does not comply ("John, if you can't behave yourself you are not going to be able to stay in the listening center." "If I have to speak to you about this one more time, young man, there will be no recess for

you today." "If I see you looking at John's paper again, I will give you a zero on this test.") Thus, threats go beyond vague warnings; they spell out specifically what the teacher is going to do if the child persists in his undesirable behavior. Threats are coded whenever they are made; you do not need to see whether or not the teacher follows through with them. If the coder is not sure whether to code warning (WARN) or threat (THRT), code warning (WARN).

Code criticism (--) when the teacher shouts or "barks" at the child, criticizes him verbally, disciplines him physically, or becomes frustrated and upset so that she lashes out at the child angrily ("Stop that this instant!" "What do you think you are doing?" "Who do you think you are?" "I've had enough of this!" "How many times do I have to tell you?" "Can't you hear?"). In such instances, the teacher rejects the child either verbally and/or in the intensity and negative quality of her response. She has gone beyond the mere annoyance that typifies warnings, and has gone beyond the self-control that is implied in an isolated threat. She has lost her temper at the child. If a statement by a teacher is actually a punishment ("All right, go to the corner."), record it as a criticism (--) regardless of how it is said.

In some instances, both threat (THRT) and criticism (--) might be coded. These would be cases where the teacher gets angry, criticizes the child, and before she is through with him she adds the threat to the effect that if he ever does anything like this again she will do something even worse. In such, cases, where both teacher reactions occur, both should be checked. However, as always, this should be coded only when there is certainty that both categories should be checked.

Child Reactions

Child reactions may be coded (optionally) whenever the teacher conveys to

the child that his behavior is inappropriate (i.e., whenever you code non-verbal intervention (NVINT), management (MGMT), warning (WARN), threat (THRT), or criticism (--)).

Whenever these kinds of interactions occur, the child's reaction may be coded as either cowed (COW) or sullen (SUL). The child should be coded as cowed (COW) if he appears sheepish, anxious, ashamed, embarrassed, afraid, remorseful, or otherwise generally sorry for having misbehaved and apparently upset at being out of the teacher's good graces. In contrast, the child is coded as sullen (SUL) if he appears defiant, sullen, angry, resentful, sneering, or otherwish generally unafraid and contemptuous of the teacher. Occasionally he may show such a reaction in critical behaviors such as sassing the teacher or "telling her off," although more typically sullenness will be conveyed through gesture and expression rather than vocal response to the teacher. (SUL) is also coded if the child is not particularly angry but is not at all upset and shows contempt for the teacher through such behavior as keeping a straight face while she is shouting at him but then making faces or obscene gestures at her after she turns her back. Grinning at friends after the teacher has turned her back following an outburst would also be classified here. Thus, the basic distinction in this coding is between the child who is upset and ashamed when the teacher reacts negatively toward him vs. the child who is not. The coder should be certain about which of these two child behaviors to check, otherwise he should not code either category.

CRITICAL BEHAVIORS

Several of the student causative behaviors are deemed important and diagnostic enough to be considered Critical Behaviors. These behaviors, which are <u>circled</u> on the list of student behaviors on the coding sheet, are to be

noted wherever they occur regardless of whether or not the teacher notices them. These behaviors are : SASS/DEFY; BULL; VERB AGG; P. AGG; PICKED ON; DELIB TR. If one of these behaviors occurs and is gross enough to draw the coder's attention away from the teacher and also gross enough that the teacher should react immediately, even of she does not react, code the incident. It should be coded by noting the child's number in the proper column, marking the number of the behavior in the BEH # column, and then drawing a line through the rest of the categories to indicate that it occurred, but the teacher did not react to it. Instances such as these might include a student making faces at the teacher behind her back, so that she can't respond, or a situation arising between peers that the teacher does not notice. It might also include the case where Bullying (BULL) has been committed and there is no teacher reaction to the recipient who is being PICKED ON, even though she might reprimand the Bully. Another possibility is a teacher who deliberately ignores disruptive behavior because she is trying not to reinforce it by attending to it. In any case, use this type of coding conservatively and note only very obvious events that should be recorded because they are extreme and diagnostic.

STUDENT CAUSATIVE BEHAVIORS

The student causative behaviors which precipitate a behavior related contact or what may be termed a critical behavior are generally self-explanatory with a few exceptions. NOT OBSERVED includes all behaviors which caused the child to be disciplined, but which were not seen by the coder. The Independent Typically Inappropriate Category (IND TYP INAPP) includes all non-working behaviors which are criticized by the teacher which are <u>not</u> social in nature or disruptive to other children. This includes wasting time, working the wrong thing at the wrong time, daydreaming, and anything else that the child does

independently that is not disruptive. Social and chatting behavior (SOC CHAT) is that inappropriate behavior that a target engages in with a peer that is not disruptive but is definitely out of place at the time. Disruptive (DISRUPTIVE) refers to behavior that a target engages in either independently or with peers that is noisy or disturbing enough to go beyond either IND TYP INAPP or SOC CHAT.

GRIPING is rather self-explanatory behavior that includes whining or otherwise verbally annoying the teacher. SASS/DEFY occurs when a student mocks the teacher, openly defies her, talks back to her, makes faces behind her back and does any behavior which can be considered grossly disrespectful. This is more extreme than compliance with a frown or a scowl, in which the student demonstrates his displeasure but complies anyway. SASS/DEFY means a proactive effort on the student's part to respond negatively to a teacher's demands or requests. CHEATING refers to independent or cooperative sharing of work when such sharing is not permitted by the teacher. BOSSING means acting like the teacher and telling another child what to do, but is not aggressive behavior intended to hurt. BULLYING occurs when one child is "picking on" another child without the recipient fighting back. It is to be distinguished from Verbal or Physical Aggression which implies a mutual conflict, and from Bossing which is also one-sided but does not involve malicious intent. Bullying is aggressive behavior intended to hurt. PICKED ON refers to the recipient of a Bully's behavior.

Verbal Aggression (VERB AGG) is an unfriendly initiation involving only words, not physical contact. The content of the message is obviously intended to hurt or anger the other person. If aggression involves both physical and verbal abuse, Physical Aggression (PHY AGG) should be noted.

CRY/UPSET and POUT/SULK are rather obvious categories dealing with the child's inability to cope with school or peer problems. They are most easily distinguished from one another by the fact that CRY/UPSET deals with an emotional overreaction and POUT/SULK is an overreaction that includes not only an upset but also anger or hostility.

Deliberately causing trouble (DELIB TR) is an independent and disruptive behavior engaged in by a target child. Although it may include interacting with a peer or perhaps all the peers in the class, they are rather non-specific recipients of the target's aggression. Examples of this type of behavior might include a target who is trying to trip everyone who comes near his desk; a target who is throwing spit-wads at everyone within range;or perhaps a target who makes faces at or jostles all peers he encounters on his way back to his seat from the pencil sharpener. These are all cases of a child "acting out," being aggressive in one way or another, not specifically to annoy another child as much as simply to draw the attention of the teacher and the class to himself.

Leaving the class without permission (LEAV W/O PERM), sleeping (SLEEP), vomiting (VOMIT), masturbating (MAST), and self-abuse (SELF AB) constitute the rest of the list of student causative behaviors. Although these behaviors will occur extremely rarely, if at all, they are considered extremely critical behaviors and can be predicted to have an immense impact on the teacher's perception of the child and, therefore, should be noted rather explicitly if they occur even once.

The other category (OTHER) remains to pick up any other unique but important student behavior. Most frequently noted here will be praiseworthy student beahviors, since they are not listed specifically elsewhere in the

list. Following data collection, this list should be examined carefully to determine whether some behaviors can be combined into common categories.

ADULT CRITICAL INCIDENTS

The adult critical incidents section contains two types of items - those which are coded independently and those which are coded in conjunction with a student causative behavior and a teacher reaction. Independent Adult Critical Incidents include: Appoints a target child to take names while the teacher is out of the classroom (APPTS MON); Flattery (FLATT); and Physical affection (PHY AFF). These adult critical incidents are adult initiated rather than reactions to a student causative behavior. They are coded by entering the target's number in the child # column, drawing a line through the behavior columns and the teacher and child reactions columns, and entering the Adult CI number in the final column.

The second type of item included in the Adult Critical Incidents section are those that happen in conjunction with a student causative behavior. They include Makes Good Example (MAKES GOOD EX) and Makes Bad Example (MAKES BAD EX). These two incidents almost invariably accompany a praiseworthy or negative behavior on the part of the student and either a teacher reaction of praise or criticism. The teacher might note that a target child is disrupting the class by talking with a peer, criticize his behavior and then say to the class "If the rest of you don't pay attention, you're going to get in trouble, just like John." In this case, the coder would record on the same line John's number, the student causative behavior number (in this instance, SOC CHAT), place a check under the criticism column, and note the adult critical incident number in its column. All of these numbers and checkmarks appear on the same line because they are related to the same interaction.

DATA ANALYSES

Because the Student Attributes Coding System focuses on the individual child, the coding can be applied to as few or as many students within one classroom as is necessary for the purposes of the study. Data collected in this way can be examined in several fashions. Interactions of single children, subgroups of children who share common features, and interaction patterns of the class as a whole can be studied with ease. The raw scores produced by tallying each child's check marks in each category are in the form of frequencies. These raw frequencies may be converted to percentage scores in order to compare the scores of children whose raw frequencies in the various categories were quite different.

The coding system presented here should not be viewed as a finished and closed product, but rather as a system that could be modified to fit other purposes than the collection of data for the one study for which it was designed. The Student Causative Behavior list and the Adult Critical Incident list are two sections of the coding system that might be redesigned for other purposes. It seems likely that the list of student causative behaviors should be expanded to include specifically the most frequent praiseworthy behaviors, leaving the "other" column free for idiosyncratic events. The Adult Critical Incident section might be redesigned so that the adult critical incidents such as physical affection and flattery would not be double-coded when they occur in conjunction with work or social contacts that are also recorded in other sections. These suggestions are but two that should be considered in making a decision to implement the use of the Student Attributes Coding System in subsequent studies.

To eliminate the laborious task of hand tallying all the raw data, a computer system has been written to tally data cards that can be punched directly from the coding sheets. For a complete discussion of this system, see Crawford and Washington (1974).

CODER TRAINING AND RELIABILITY

Because of the complexity of the system, a one- to two- week training and practice period usually will be necessary before sufficient intercoder reliability can be established. The following procedure is recommended: (a) coders should familiarize themselves with the manual and coding sheets, discussing any questions they may have with the investigators; (b) coders should then write out their own examples for each of the coding categories and discuss these with the investigators; (c) coders should exchange, code, and discuss classroom transcripts and episode descriptions; (d) coders should begin working in the classroom or coding video tapes of classroom interaction similar to that expected in the research.

Two or more coders should work together so that reliability (percent agreement) can be monitored. Initially, coders should concentrate on applying the coding distinctions in the system, without attempting to record the identification numbers of the children. The type of response opportunity can be noted simply by entering check marks in the appropriate columns, rather than child identification numbers as will be used later. Attempts to code child identification numbers in addition to coding all the interactions included in the system will hamper most coders at this stage. Later, when the coders have learned to apply the system efficiently, they can start recording identification numbers with relative ease. Coders should write down in sufficient detail for later recovery any questionable coding situation that comes up. Short periods of coding intermixed with periods of discussion are preferable in the beginning to attempts to code for an entire morning or afternoon.

As the coders become more reliable in applying the system they can begin to code for longer time periods and to begin to identify the children by numbers as they code. A seating chart locating all of the children in the room

by number should be handy for quick reference at this time. There could be frequent omissions in the early coding protocols, since coders who are unfamiliar with the system, the coding sheets, and the children's identification numbers might be unable to keep up with fast moving interaction sequences. Most of these disagreements due to omissions will disappear as the coders become more efficient in applying the system. Once efficient application occurs, so that there no longer are constant differences between coders in the number of interactions coded, the data are ready for assessment of intercoder agreement and for discovery of constant differences in application of the system. Any constant differences which appear should be discussed with the coders, since such differences reflect disagreement in the way equivalent situations are being coded, meaning that one or both coders are not coding properly.

Once constant differences between coders in the way they apply the system are eliminated and satisfactory intercoder agreement is achieved, coders can begin to work individually. Determination of what constitutes "satisfactory" intercoder agreement will depend on the preferences of individual investigators and the degree of precision in data that the problem under study requires. As a general rule of thumb, the present investigators recommend that intercoder agreement of at least 80% be attained before coders begin to work alone, and that reliability checks be made periodically to ensure that reliability is being maintained and to aid indiscovery of any constant differences between coders which may appear with time. Percent agreement is determined by the ratio of exact agreement between coders to the combined total of exact agreements plus omissions (one coder coded and the other did not) plus disagreement (both coders coded but disagreed on the coding). In

determining agreement on type of response opportunity, for instance, the denominator of the ratio would be defined by the sum of all response opportunities coded by coder A plus all response opportunities which were coded by coder B but not coded by A. This aggregate can be divided into four subtotals: (a) cases where both coders coded a response opportunity and also agreed on the coding of the type of response opportunity; (b) cases where both coders coded a response opportunity but disagreed on the type of response opportunity involved; (c) cases where only coder A coded; (d) cases where only coder B coded. Only instances of the first type (both coders have coded the response opportunity and agreed on the type of response opportunity involved) are considered to be agreements.

When good coding agreement is established, the percent agreement using the formula described above will exceed 80% (for most categories it will be much higher), and the discrepencies will tend to be omissions rather than disagreements. Disagreements (both coders code but do not agree on the coding) should be rare and should occur only in connection with category boundaries known to be arbitrary rather than absolute (affirmation vs. praise, negation vs. criticism, warning vs. criticism).

Since the system involves objective coding of observable behavior, its validity is insured automatically if it is reliably applied according to the instructions in the manual. The only real threats to validity occur in connection with unforeseen types of interactions which the manual was not prepared to deal with. Consequently, investigators must impress on coders the necessity for recording any unusual or unforeseen event in the classroom and discussing it with the investigator at the earliest possible moment. In order to make decisions in these situations, investigators must have a clear grasp of their own conceptualization of the problem and the inferences concerning it that are going to be made on the basis of the data collected. If coding a particular

interaction (or coding it a certain way) would introduce characteristics into the data which would violate the implicit or explicit assumptions about the data which establish the basis for inference from data to theoretical issues, the interaction should not be coded (or it should be coded in a way that is consistent with the implicit or explicit assumptions). Investigators must also be careful to avoid contaminating their data by allowing relevant biases to affect decisions about how to code unforeseen situations. Ideally these decisions should be made "blind" -- without knowledge of subject characteristics relevant to the study. If this is not possible it will be necessary to rely on advance specification of decision rules and/or randomizing procedures. Even in an objective coding system, reliability can insure validity only if the data and their interpretation conform to the logical demands of the research design.

References

Crawford, W. John, & Washington, W.O. A computer system for tallying data collected by the Student Attributes Coding System. Report No. 74-3, The Research and Development Center for Teacher Education, The University of Texas at Austin, 1974.

(SAMPLE CODING SHEET)